

HV splitting

- Current caused by radiation damage
 - Assume 15 fb⁻¹, -10 deg C

Layer	Radius,mm	uA/strip	uA/hybrid	uA/stave
0	18	1.2	310	NA
1	35	0.46	360	NA
2	54	0.28	530 max	1790
3	86	0.12	230 max	770
4	116	0.06	180 max	550

- One HV ch/hybrid for L0-2
- Two HV ch/ stave for L3
- One HV ch/stave for L4-5
- Max current < 0.6 mA => safety factor of 4-5
- Bira HV PS 2.3 mA & 3.2 mA

HV channel count

- Proposed configuration gives total HV channel count of 492
 - Now have 10 crates => 480 channels
 - Minimum need : 12 motherboards, 280 “+” HV pods => ~ \$135k
 - 3 SMT racks allow for 12 crates => 576 channels
 - Need 2 crates, 21 motherboards, 380 “+” HV pods => \$225k
- Discussions underway to redesign PS
 - Pod only or motherboard?
 - Could be done by R.Yarema’s group
 - Price could be lower by factor of 2(?) –guess at this point
 - One engineer-year

HV channel count

- Proposed configuration gives total HV channel count of 492
 - Pro's to keep the current system
 - Specs are adequate for Run2B
 - Performance is good
 - All hardware and software infrastructure exists
 - Same hardware can be used for production
 - More channels can be used for Run 2A
 - Currently have 10 crates, 440 HV channels (out of them 248 are positive)
 - Propose to have full 11 crates; 528 + channels

HV channel count

	Crates	Mboards	+ Pods	Spares count
a) Currently in MCH2	10	55	248	
b) Currently in SiDet	1	4	16	
c) SiDet production	2	10	80	
d) SiDet Run2B	1	4	32	6.4 %
e) Ch count Run2B	11	62	492	
f) MCH2 Run2B	11	66	528	7.3 %
g) Balance (d+f)-(a+b)	1	11	296	
h) Run2B SMT spares	0	5	34	6.9 %
Total to buy (g+h)	1	16	330	20.7 %

- Spares : 21% (spares + extra in MCH2 + SiDet)
- Total ~ \$180k, need new quotes
- CINVESTAV can buy HV PS in 2002

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d) SiDet Run2B	1	4	32	6.4 %
e) Ch count Run2B	11	62	492	= 100 %
f) MCH2 Run2B	11	66	528	7.3 %
g) Balance (d+f)-(a+b)	1	11	296	
h) Run2B SMT spares	1	7	104	21.1 %
Total to buy (g+h)	2	18	400	34.8 %

- Spare pods : 35% (spares + extra in MCH2 + SiDet)
- Total ~ \$212k (201k CINVESTAV)